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ABSTRACT

This booklet provides an overview of the field of early childhood education. Three topics are discussed. First, the importance of early learning is emphasized in sections briefly indicating the nature of young children's thinking, their needs, and their individual differences. Second, summary descriptions are given of 11 models, programs and methods for teaching children between the ages of 3 and 6. Head Start, Englemann-Becker Model for Direct Instruction, Behavior Analysis Approach, Bank Street Approach to Early Childhood Education, Tucson Early Education Model, Responsive Education Program, Open Education Program, Demonstration and Research Center for Early Education, Montessori Method, Cognitively Oriented Curriculum Model, and the Learning to Learn Program are overviewed. Third, programs for infants and toddlers are described. Differences among three kinds of program--the home visitor approach, the center-based approach, and a combination of these two--are pointed out. It is concluded that child development is very complex, that schools and families must coordinate their efforts to influence development, that preschool programs in the long run may save taxpayer money, and that no single program model is best for all children. Program contact persons and agencies for infants and preschool children are listed. (RH)

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Early Childhood Education: Foundations for Lifelong Learning

John R. Cryan and Elaine Surbeck

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Early Childhood Education: Foundations for Lifelong Learning

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Introduction

> Well, and don't you know that in every task the most important thing is the beginning, and especially when you deal with anything young and tender.
>
> Plato, *The Republic*

A recurring theme in contemporary literature dealing with education and lifelong learning is that the early years of a child's life are crucial. What a child will or can become and the style with which he will face learning and life itself, is directly influenced by the quality of his early childhood. We believe that there is no more precious natural resource for the future than today's young child; we believe each child has the right to a sound beginning.

Only recently have Americans begun to value the learning potential of children in their beginning years. Although a few educators and theorists had long recognized the importance of the early years, it was not until after World War II that a favorable climate for early childhood education emerged. Events that proved to be catalytic for the change in knowledge and attitude included the 1954 Supreme Court decision mandating the racial desegregation of our schools, the launching of Sputnik, and the resulting national concern about the quality of American education. Furthermore, the systematic study of children had begun to mature. As has been noted by many, a coincidence of timing matched psychologists and researchers in child development and theorists of the learning process (i.e., Bruner, Hunt,

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Bloom, and others) were ready to offer solidly based approaches to provide a new conception of the educational potential of young children. The rationale for this new conception was founded primarily upon the following theoretical positions.

1. As conceptualized by Piaget, the development of intelligence proceeds through sequential, hierarchical stages; thus, the "intelligence" displayed by children is qualitatively different from the intelligence displayed by adults.
2. A major portion of a child's intellectual growth occurs before the age of 8—not in the mere acquisition of facts, but in learning strategies, processes, attitudes, and values.
3. A stimulating environment that is overtly directed toward the encouragement of problem solving and learning-how-to-learn—whether that environment be home, preschool, or the elementary school—is critical to the continuing growth of cognitive and interpersonal skills.
4. Because early experiences (interaction with the environment) and language stimulation are significantly related to the child's language development, which in turn, is directly related to later intelligence and achievement, the education of young children must begin in that period prior to early language development.
5. It is likely that the most significant factor in the child's total development is his education in the family. Disadvantaged children receiving equal opportunities in school but unequal opportunities in the home will not reach their potential and will fail when competing with children from more advantaged settings unless this early failure cycle is broken.

Emerging at the height of the civil rights movement, a composite of these theoretical positions was the basis for massive federal funding for the development of educational programs directed primarily at "disadvantaged" young children. Beginning with Head Start in 1965, and Follow Through in 1967, there was a proliferation of compensatory preschool and primary-grade programs. The solution to the problems of the disadvantaged was apparently at hand. However, subsequent research not only on children but also on the educational programs revealed that the solution was not so simple. To understand the

reasons why, it is helpful first to know something about the history of early childhood education.

From colonial times primary school was seen as the institution that provided children, age 6 and older, with instruction in basic subjects such as reading, writing, and arithmetic. Entrance into school was marked by didactic instruction in reading. Even today, organizationally, the primary grades tend to be structured by a horizontally age-graded sequence. Although there is no national curriculum per se, there is obvious uniformity of curricular content across the U.S. in the primary grades.

Programs for children between the ages of 3 and 6, while more recent to the American educational scene, have roots that are deeper and more diverse in origin than most people realize. Kindergartens, nursery schools, and day-care centers have existed in the U.S. for more than 100 years. The kindergarten, serving 5-year-olds, was first established in St. Louis public schools in 1873; private kindergartens have existed since 1855. Nursery schools serve children 2½ through 4 years of age. While the first nursery school in the U.S. was a parent cooperative nursery (1861), the nursery schools most commonly understood to be "typical" in America were often associated with university home economics departments and were established about 1922. Finally, the establishment of day-care centers predates the other two preschool programs. These centers, in existence as early as 1822, provided mostly custodial care for children of all ages who were orphans, abandoned, or whose parents were unable to care for them.

Probably the most significant early influence on programs for young children in America was Friedrich Froebel, founder of kindergartens in Germany. A handful of wealthy, influential American women became proponents of Froebelian philosophy; foremost among these was Elizabeth Peabody. Being highly impressed after visiting a Froebelian kindergarten operated by German immigrants in Wisconsin in 1855, Peabody opened the first English-speaking American kindergarten in Boston in 1860. More importantly, she became the first American advocate for early childhood education. Through extensive lecturing and writing, Peabody spread Froebel's concepts of education throughout the U.S. She was instrumental in persuading

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William T. Harris, superintendent of St. Louis public schools, to establish a public school kindergarten in 1873, and, with her sister, Mary Mann, was co-author of the first kindergarten textbook.

A second influential American proponent of Froebelian philosophy was Susan Blow, director of the public kindergarten opened by Harris in St. Louis. Blow wrote five books on Froebelian philosophy and kindergartens and became the leading advocate of Froebelian philosophy in America. As a result of her involvement and leadership in the International Kindergarten Union (IKU)—later to become the Association for Childhood Education International—Froebelian philosophy reached a popularity peak around the turn of the century. However, Froebelian methods encountered increasingly serious questioning from some IKU members, led by Patty Smith Hill, who were listening to a man at Columbia University named John Dewey. Continued divisiveness within the IKU resulted, ultimately, in the philosophical change from Froebel to Dewey. For American kindergarten practices this meant a change from a more structured to a free play environment, from a teacher-directed to a child-centered classroom. Thus, today's kindergartens are more a reflection of Dewey's than of Froebel's philosophy of education.

Historically, nursery schools were more oriented toward family life and child development, while kindergartens were more school and "education," oriented; day-care centers were primarily custodial. Currently, differences specific to each type of program are still very observable, yet it is apparent that early education programs have become eclectic. Perhaps the most obvious examples of this are 1) the overt attempts of kindergartens and day-care centers to involve parents more actively, and 2) the inclusion of a structured educational program of some sort in nursery schools and day-care centers.

In the years since World War II, significant progress has been made. The nature of the formal settings in which teaching and learning for young children take place has been reconceptualized. Most recently, we have seen the development of programs for infants and toddlers. There is excitement about alternative organizational structures and teaching-learning models. The importance of the home and of parents and peers as participants in the educational process has been rediscov-

ered. The trend today is not just to talk about early childhood education but to implement programs in support of it.

What have we learned? How do programs for children in their early childhood years contribute to the foundation for lifelong learning? Hopefully, the chapters that follow will provide some answers to these questions.

The Importance of Early Learning

Adults frequently see young children as having few problems to contend with. While it is true that children have license for play during childhood, the nature and number of accomplishments they have mastered by the age of 3 should be considered. They have learned to walk, to talk, and to cope with and adapt to a complex variety of situations and individuals. They have changed from miniscule specks of life to "human beings." How does this occur? In each instance, the forces of heredity and environment interact to produce independent, unique individuals in a relatively short period of time. The complex interplay between these two forces shapes and molds the child's physical, emotional, and intellectual potential.

For any particular individual, his inherited temperament and potential, the human environment in which he exists, and the unique way in which he perceives his world all have a direct influence on his development, his feelings of competence, and the quality of his everyday life.

The competence referred to here is of a global nature. Although educators are often concerned only with academic competence, and those factors related to cognitive development are emphasized in this chapter, the total competence of a child to deal effectively with his world is far more encompassing. Overall competence is composed of social relatedness and skill, ability to cope with everyday life, language proficiency, problem solving, and exploration and mastery of physical surroundings, to mention just a few. We believe that total competence,

rather than academic competence alone, should be a goal of any educational program.

Since feelings of overall competence (or lack of competence) begin in a child's infancy (White, 1975), let us consider what are currently thought to be critical antecedents for a child's later success in school.

1. Infants have intelligence. They learn, change, and develop action patterns very early. Their intelligence is sensory and thus they must touch, taste, hear, feel, and see in order to construct knowledge (Piaget, 1954). We also know that intelligence is not fixed; thus, the child's potential for change—in a positive or negative direction—is great (Hunt, 1961).
2. Young children have strong needs for emotional security and affection. Someone who deeply loves the infant (usually a parent) will likely be his best teacher, and will enable the child to explore, to play, and thus to learn. The child grows in independence and learning skills when he has emotional stability.
3. Children need mothers as teachers who recognize their infants' needs and who provide appropriate opportunities for their children to experience and master the world around them. A mother must, therefore, extend and enhance her infant's activities in order to give them coherence and relevance (Weikart and Lambie, 1970).*
4. Infants require language at an early age in order to learn to communicate. Language is often not expressed verbally by children until the second year of life. They must hear words, however, and should enjoy verbal games so that they might later comprehend the complex interaction language provides human beings. Language must therefore have meaning and focus even for infants under one year of age.
5. As Burton White and others have demonstrated, the first one to one-and-a-half years of life is especially important in infant development. The child at this stage is mobile and manipulative and, if secure, is consumed with curiosity and a need to "find out." How a mother deals with her child undergoing these

*While it is not our intention to slight fathers, it is far more common to find the mother as primary care-giver.

changes has a profound effect on the child. She must recognize that the child's growing need to alter and affect his environment is necessary and "normal."

6. Finally, the method and type of control imposed by parents is also important. Overly authoritarian adults do not meet the young child's need for expansion of social behavior. Parents who can involve a child in an agreeable fashion will not limit or bypass his natural inclination to be curious, to find out, and to experience life, but rather will enhance and encourage a positive self-concept and the development of vitally important interpersonal skills.

Thus parenting, in its fullest sense, involves "teaching" in a legitimate and important way. The quality of that teaching during the child's first three years will affect his later development and personality. While the degree of change attributable to parent intervention in a child's infancy is difficult to measure, there is little doubt that parents' actions in a child's life during the first years leave their mark.

While the early years affect the child's later success in schools, there is a further consideration. Children are not like adults; they do not think like adults think. Thus, any programming for young children that hopes to enhance overall competence in children must be based on knowledge of the developmental changes that occur during the early childhood years. Discussion of the following three topics will help to clarify the nature of children in the early years: 1) the nature of young children's thinking, 2) the needs of young children, and 3) the individual differences among young children.

The Nature of Young Children's Thinking

As Piaget has pointed out, intellect develops in a series of hierarchical stages, each built upon the preceding stage. The stage that encompasses infants and toddlers (0 to 2 years) is called sensory-motor; the stage from age 2 to age 7 is called preoperational.

We still have much to learn about the nature of an infant's thinking at the sensory-motor stage. The summary presented below reflects research and thought, primarily Piaget's, about infant cognition.

During the first four months, infant intelligence evolves from the

child's reflexes and is comprised of sensing and feeling. The infant forms his first behavior patterns, such as bringing his hand to his mouth to suck. As yet, he has no notion of causality, nor has he differentiated between what is himself and what is not himself. During the next five or six months (age 10 months to a year), the child is actively working on his most important cognitive achievement in infancy, that of recognizing the permanence of objects that are separate from himself. The means by which a child accomplishes this is sensory exploration—seeing, touching, hearing, smelling, tasting, and manipulating objects and people in his environment.

From the time that object permanence is attained, elaboration of existing patterns (schemata) and prolongation of interesting causal events become the primary means by which the child expands his "knowledge." A child now combines schemata to construct even more complex thought patterns and, thus, to produce new events. As any parent knows, the learning is by trial and error and is very active. By the age of 18 months to about 2 years, the child is beginning to find solutions mentally—that is, through imagery rather than through trial and error. The child can thus represent objects and actions internally. For the first time, it is obvious that the child can "think." Imagery begins to function in simple tasks of classifying and ordering as well as in imitation. Language, at first primarily receptive, is now expressed by the child and can represent his thinking in a telegraphic way. As previously mentioned, parents play an important part in the cognitive development of their child since it is only through interaction with other human beings that such development occurs.

At the preoperational stage, as during infancy, children learn through sensory input and manipulation of concrete articles. They require many and varied experiences with objects and materials, as well as reflection, through language, about objects, materials, and events. Children in this stage not only are concrete thinkers but also are perceptually bound. Thus, what they see, feel, and hear themselves is more "real" and believable than what they learn vicariously. As a result, rules and abstractions are less understandable to children in this stage than in subsequent stages of cognitive development.

Another characteristic of children's thought during this period is

its egocentric nature. Children perceive themselves as the center of causality—that is, as the most important actors upon the stage. So, for example, a child in the early preschool years may think others cannot see him when he shuts his eyes. Decentration—or the ability to take the perspective of another—is therefore an important cognitive skill that is developing with experience as the child progresses through this stage.

Representational thinking, begun at the end of the sensory-motor stage, blossoms during the preoperational stage. Through imitation, role play, drawing, and words, children build the mental structures that eventually lead to logical thought. Two avenues by which children employ these processes to reach logical thought are play and observation. Play allows the child spontaneous and exploratory trial-and-error learning. It is invaluable for cognitive, social, and emotional development and should be considered the "work" of the preschool child. Further, the role of observation and modeling should not be underestimated. Children under 6 years of age spend a great deal of time observing their environment and the people within it as a means of determining both how to behave and the consequences of certain behaviors.

Language also plays an indispensable role in all of the cognitive advances, as it serves to stimulate, reinforce, and motivate children to progress further socially, emotionally, and cognitively. By the time a child reaches 7 or 8 years of age, his thinking will be qualitatively different than during the preoperational stage. He is more in control of his thought processes, which in turn are more logical and abstract. He now can reverse the operations characterized by thinking; memory is improved and experience is organized. In short, cognitive integration is more advanced than at an earlier time.

The Needs of Young Children

Young children have specific and different ways of learning; however, they share with adults some common needs. Such needs are perhaps more critical for children since they are dependent upon adults to recognize and respond to their needs in an appropriate manner. Needs considered critical for children include the following.

First, all of the affection and cognitive input do not amount to

much if a child's *health* is poor. Children must have healthy bodies in order to benefit from their other experiences. Unfortunately, as a recent health care survey indicates (Wallace, 1978), health expenditures for children and youth in the U.S. are proportionately lower than for individuals in other age groups. It seems only logical that a healthy child is more able and ready to learn than is a child with health problems. For example, a child with an undetected hearing deficiency in infancy will be missing out on vital language stimulation.

Second, a child requires psychological and physical *safety*—that is, relative freedom from personal stress, anxiety, and physical harm. Suffice it to say, psychological and physical safety are fundamental to overall success and a balanced perspective on life. Learning to read in school, for example, is a secondary matter if physical abuse occurs at home. Data on the incidences of child abuse and neglect indicate that Americans have considerable progress to make in providing for the safety of their children.

Third, a child needs *security*. It is essential that a child sense he can trust the people in his world, that they will care for and protect him. During infancy, if a mother feeds her child, alleviates his pains, and furnishes him with physical contact and comfort, he will develop trust. When he trusts that his needs will be met, he begins to feel secure. Likewise, the need for security in the classroom is the first need that must be satisfied before a child can make use of his environment—the materials, his peers, and the teacher's skills. Generally, children who have felt security at home adjust to classroom life quickly and easily.

Fourth, the need for *love* is a natural outgrowth of a child's sense of trust and security. In infancy the responsiveness and warmth that a mother conveys through her physical contact, smiles, singing, and quiet talk are all expressions of love. In school, children also need love and affection. Children need to feel that the adults surrounding them truly care about them. This does not necessarily mean being sentimental and hugging and kissing children. It does mean respecting the child as a person, as an individual; it means challenging him and letting him know that he is capable. If a child feels secure, then it becomes safe for him to fail because he knows that in failing he will not lose love.

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Fifth, with roots going back into infancy, is the need for *exploration*. This need emerges conspicuously as a child develops motor skills. Even before a baby becomes proficient in crawling and walking, he is off investigating everything he can. Exploration is a result of the attraction the environment exerts on a child. It is perhaps the easiest need to fulfill in the home and in the classroom because it is the only need that can be satisfied by the child himself. However, exploration most generally occurs after the other, more basic needs of health, safety, security, and love have been met. As mentioned earlier, it is vitally important that children be given the time and opportunity to operate on their world through exploration.

Sixth, the need for *mastery* is related to the need for exploration, since intense curiosity is an integral part of both. However, mastery goes beyond mere attraction to objects. Though playful in character, the process of mastery shows a child's involvement and persistence with an object or an activity until it is "understood" or brought under control. Mastery is the outgrowth of exploration and is associated with performance, achievement, independence, control, and power. It can involve the mastery of objects and material or the mastery of people. It must be nurtured by adults in a positive way.

Seventh, a child needs *recognition* to establish identity. Such recognition by others is necessary for the development of a child's self-concept, his self-image. It is his way of knowing who he is. All the words and actions a child uses to call attention to himself or that seem to say "look at me" or "look what I did" are examples of this need. Children want and need recognition to reinforce their concept of themselves, to be sure they are capable and acceptable.

Finally, and perhaps most importantly, young children need *people*—parents, teachers, relatives, and peers—to serve as models and as aides in helping them meet their needs. They require individuals to help them develop desirable characteristics that will make their lives happy and rewarding. People who can provide children with this kind of assistance generally share one important characteristic: an understanding and appreciation of individual differences.*

*The importance of security, affection, mastery, and recognition as they are presented here was conceptualized by Herbert A. Spriggle in unpublished material developed for the Toledo Learning To Learn project.

Individual Differences of Young Children

A basic factor in understanding the nature of children is the recognition that every child is unique. Children are born with genetic variations that predispose them to be different in appearance, temperament, growth patterns, and learning style, to name just a few. All of these factors, however, are interrelated and interdependent and function as a unit to produce unique personalities. In terms of promoting competence, individual differences dictate a tolerance and understanding of learning differences, a variety of approaches to teaching and learning in the classroom or at home, a knowledge of individual children, and a respect for their differences, since each child is more proficient in some areas and less proficient in others. In a more global sense, individual differences must be respected not only in terms of cognition but also in terms of values, ethnic differences, life styles, and personalities.

In conclusion, many factors contribute to the development of competence in a child by the age of 6. As we have seen, these factors emanate from the discrete biological inheritance and nature of a particular child and develop in interaction with that child's environment. Individuals in the child's early environment contribute significantly to his competence by providing the foundations for future development. However, increasingly with age, the child himself contributes to who and what he will become. Our belief is that, through provision of the best possible beginning, adults can positively influence the quality of children's lives.

Obviously, this chapter has not touched on all the facets of childhood that are important for understanding the nature of children in their early years. However, some of the salient aspects of early learning and its significance have been highlighted in such a way as to lead the reader to investigate original research and contemporary theory on the subject.

Programs for Preschoolers

Programs for children between the ages of 3 and 6 have existed for many years. We alluded briefly to the historical development of kindergartens, nursery schools, and day care centers in the introductory chapter. It was the decade of the 1960s, however, that brought about what many have called a renaissance in early childhood education. The War on Poverty served as a social catalyst, as certain patterns of philosophical discourse and empirical research began to jell. Research data were marshalled not only to support the importance of young children's educational needs but also to provide a basis for the expenditure of enormous sums of federal money. The largest portion of this money was used to finance experimental programs for poverty children. The focus of these experimental, early intervention programs was on 4-year-olds although, as will be seen in the next chapter, more than occasional interest was given to programs for infants and toddlers.

The purpose of this chapter is to survey the major programs developed for 3- to 6-year-old children during this most recent and important period. There are more than 30 such programs, and we have chosen to present 10. For information on the other programs, the reader is referred to the list of program contact persons and agencies beginning on page 58.

Almost all of the programs to be discussed focus on economically disadvantaged children. The emphases in the programs vary greatly, with some being quite narrow or single-dimensional and others mul-

tidimensional. Further, the programs differ with respect to their views of learning and development.

Programs put forth by environmentalists emphasize that individuals are constantly influenced by the forces within their environment. They urge the intentional shaping of behavior by teaching toward directed goals. Much of what is considered traditional elementary school practice follows this environmentalist or behaviorist approach. A different view is held by the maturationists, who focus on the regularities within the organism. Children are viewed as inherently good. Emphasis is on facilitation of the unfolding of positive forces within the child. Another point of view is that of the interactionists, who assume that development, learning, and behavior are substantially influenced by both the maturational process and environmental factors. Children are strongly encouraged to construct a view of the world which, in turn, can serve to regulate their continued development and learning. Before proceeding with a discussion of the programs that are compatible with these differing views, it is necessary to set the stage for their emergence.

Head Start

The seminal event in the recent early childhood education movement was Project Head Start. Conceptualized in November 1964 and implemented in June 1965, Head Start was one of several community action programs operated under the Office of Economic Opportunity. This comprehensive, nationwide program provided assistance for over 500,000 preschool children during its first summer, in 1965. From this beginning to its tenth anniversary in 1975, Head Start served over five million children. The legislation for Head Start provided an organized summer program for 4- and 5-year-old children whose social or economic status seemed to predict marginal success in elementary school. Priority for sponsorship of these programs went to community action agencies; however, school systems and voluntary organizations could be involved as well. Subsequent to the first summer of operation, Head Start programs were extended to offer children a full academic year before entrance into the regular school program.

From the beginning, Head Start was characterized by variety in both general services and levels of specificity in educational program-

ning. Programs were tailored to the specific needs and goals of the local community; however, the Office of Economic Opportunity provided certain broad goals. Those goals are as follows:

1. Improving the child's health
2. Helping the child's emotional and social development by encouraging confidence, self-expression, self-discipline, and curiosity
3. Improving and expanding the child's mental processes, with the aim of expanding his ability to think, reason, and speak clearly
4. Helping the child to get wider and more varied experiences to broaden his horizons, increase his ease of conversation, and improve his understanding of the world in which he lives
5. Giving the child frequent chances to succeed; such chances may thus erase patterns of frustration and failure and especially the fear of failure
6. Developing for the child a climate of confidence that will make him want to learn
7. Increasing the child's ability to get along with others in his family and, at the same time, helping the family to understand him and his problems--thus strengthening family ties
8. Developing in the child and his family a responsible attitude toward society and fostering feelings of belonging to a community
9. Planning activities that allow groups from every social, ethnic, and economic level in a community to join together with the poor in solving problems
10. Offering a chance for the child to meet and see teachers, police officers, health and welfare officers—all figures of authority—in situations that will bring respect rather than fear
11. Giving the child a chance to meet with older children, teenagers, and adults who will serve as models in manners, behavior, speech, etc.
12. Helping both the child and his family to attain greater confidence, self-respect, and dignity

(Office of Economic Opportunity, pp. 17-18, 1965)

These goals and objectives are not unlike those of most conventional nursery and kindergarten programs. Similarity to traditional preschools is also apparent in the format recommended for a Head Start center and shown below.

Typical Daily Head Start Program

Arrival, independent activity period (breakfast in some centers)	8:00-8:45
Work-play activity period, including:	8:45-10:00
self-directed activities	
dramatic play	
block-building	
creative experiences with unstructured media (e.g., painting, clay modeling, and waterplay)	
activities with structured media (e.g., games, puzzles, alphabet sets)	
informal experiences in language, literature music	
Transition (clean-up, snack)	10:00-10:15
Outdoor work-play	10:15-11:15
Clean-up	11:15-11:30
Lunch	11:30-12:30
Departure	
P.M. program (in all-day centers)	12:30-5:00

A typical afternoon program includes a nap, outdoor play, and miscellaneous activities such as cooking projects, experiments with various classroom materials, book browsing, listening to records, and playing games.

The generally accepted guidelines called for a limit of 15 children per class and a one-to-five adult-child ratio (one teacher, one paid aide, and at least one volunteer parent). Programs typically operated three to four hours a day, with full-day programs being the exception.

The scope of Head Start has grown over the years to include not

only an educational program and health, psychological, and social services, but also a parent participation program. Head Start is a massive and expensive intervention effort. Nevertheless, research in the early years produced evidence of only marginal effectiveness with regard to Head Start children's cognitive development and achievement. A typical finding was that children enrolled in Head Start programs made statistically significant gains when compared to their non-Head Start peers, but that these gains "washed out" after a year or two in public schools. On the more positive side, Head Start contributed to the community by employing parents and enabling them to be confident and sure of their goals for their children. Most importantly, thousands of children received necessary medical, dental, and social services.

Concern over the "wash out" effect led Head Start and Office of Education personnel to design two new strategies. The first, called Project Follow Through, was an extension of Head Start. Funded in 1967 under Title II of the Elementary and Secondary Education Act, Follow Through projects sought to maintain and supplement in grades K through 3 the gains that had been made by children coming from Head Start or other comparable preschool programs. Services provided were similar to those of Head Start: nutrition, health, instruction, social services, psychological services, and staff development.

By capitalizing on the innovative programs developed during the 1960s at universities and educational laboratories, Follow Through experimented with alternative approaches referred to as "Planned Variations." These alternatives consisted of curricular activities and specific instructional strategies based on theoretical views of child growth and development that ran the gamut from behavior theory to Piaget to open education.

The second strategy adopted to examine the "wash out" effect involved gathering data on the effectiveness of the varied curricula implemented in Head Start centers. In conjunction with Follow Through, certain model early childhood programs were installed in selected Head Start centers. This plan, also referred to as "Planned Variations," enabled the developers to assess the differential effects of curriculum models on Head Start children.

By 1969 there was a national effort to explore the effectiveness of preschool curriculum models and extensions of those models in kindergarten through third grade. The remainder of this chapter will be devoted to brief summary descriptions of some of the model programs developed for Head Start and Follow Through Planned Variations as well as some exemplary programs that were developed independently. Our rationale for presenting the programs chosen is to identify programs representative of points along a theoretical continuum and to describe those presently serving large numbers of children.

Englemann-Becker Model for Direct Instruction

Described as an academic preschool program, this model was originally developed in the early 1960s by Carl Bereiter and Siegfried Englemann who were then at the University of Illinois. The program was based upon the idea that academic readiness in children does not just develop while you wait. Englemann felt that the maturationist practice of following children's inclinations and patterns in a play-oriented program is highly inappropriate—particularly for disadvantaged children. Subsequent to the initial development of this preschool program, its procedures were adapted to a primary school curriculum and integrated with the basic principles of behavior psychology to form the current model. The model described below was one of several selected for both Head Start and Follow Through Planned Variations. In 1970 sponsorship of the program shifted to the University of Oregon and Wesley Becker took over the work of Carl Bereiter.

Englemann and Becker see their model as an alternative to traditional teaching methods and classroom philosophy. They assume that *every* child can achieve well in school with adequate instruction; and conversely, that children fail in school as the direct result of poor instruction. It should come as no surprise that this program places heavy emphasis on a highly structured, teacher-directed format to teach specific skills in reading, language, and arithmetic.

Commercially available instructional materials called DISTAR were developed by Englemann and form the core curriculum for the model. In language education, the children verbally respond to ques-

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tions about pictures of objects and symbols by using affirmatives and negatives. When making deductive statements, they are taught to use "if-then" statements. In reading, the goal is to blend letters into words. The children look at written symbols and quickly say the sounds in a series of letters from left to right. In arithmetic, the children do a good deal of counting (both forward and backward). The functions of the symbols +, −, and = are taught, and the children answer questions about numbers expressed with the symbols. All components of the DISTAR curriculum consist of three levels that correspond roughly to preschool, kindergarten, and the primary grades. The lessons develop skills based upon instructional objectives that are arranged in a hierarchy of successive complexity. Testing of the children's mastery is frequent. Administrative and instructional procedures can accommodate about 30 children, in groups of seven or eight. Groups, organized according to level of accomplishment, spend 20 to 30 minutes on each of the curriculum areas. The teacher follows very specific directions as to what to say and what to do. The importance of reinforcement is stressed and the key to the program seems to be to get the children to respond properly, given the right stimulus. The curriculum calls for rapid-fire repetition, heavy work demands, and frequent total-group verbal responses. The academic activity periods are interspersed with music and art instruction.

Behavior Analysis Approach

The Behavior Analysis Approach was developed by Don Bushell and has served as a Follow Through and Head Start model since 1968. The 7,500 children currently enrolled in the program represent a wide range of ethnic backgrounds: native American, Puerto Rican, black, and white. Like the Englemann and Becker program, this model emphasizes the systematic and precise use of positive reinforcement in classroom instruction. Program staff first diagnose each child's level of functioning; then prescribe the appropriate ability group; and then use systematic reinforcement to maximize learning of previously defined educational objectives. Systematic positive reinforcement refers to approval and praise given for progress and improved behavior, while minimal attention is given to incorrect behavior. Emphasis in

this program is upon academic skills of reading, mathematics, spelling, and handwriting. Classroom instruction is individualized through the use of programmed instruction and team teaching. The team consists of a credentialed teacher, a full-time parent aide, and two part-time parent aides. The aides generally teach spelling, handwriting, and mathematics, while the teacher deals with reading. The programmed materials used are commercially available and usually provide carefully graduated presentations. Children have their own workbooks and pace themselves through the materials.

As children work at different tasks, they are rewarded in the form of tokens or plastic chips and praise for progress and improvement. Accumulated tokens are later exchanged for the privilege to participate in some desired activity, such as listening to a story. It is always the student who determines when and for what to exchange the tokens. The school day typically consists of instructional periods interspersed with activity periods, during which tokens are exchanged. The length and number of these periods varies with the background, age, and skill level of the children. For 3-year-olds the instructional time may be only 10 minutes, whereas for older children it may be as much as 45 or 50 minutes.

Curricular materials used in the program are as follows:

Reading

1. Specially written *Behavior-Analysis Phonics Primer*
2. McGraw-Hill programmed reading series
3. SRA reading laboratory kits

Mathematics—Random House/Singer math series

Handwriting—Behavior-Analysis Handwriting Primer

Bank Street Approach to Early Childhood Education

The Bank Street College of Education in New York City has been a developer of educational programs for young children for over 50 years. Its Head Start and Follow Through model was developed by Elizabeth Gilkeson and her associates in 1968 and presently serves 14 school districts and nearly 7,000 children across the U.S. An example of the maturationist position, the Bank Street Approach is intended to develop children's self-images and a sense of self-direction in learning,

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based upon spontaneous play activities. It is assumed that, given a supportive and interesting learning environment in which children are allowed to choose from a large variety of activities, they will find learning to be self-rewarding. Further, it is assumed that each child has individual goals that evolve as the child progresses. Specific program goals are not prescribed, as it is thought that the basic principles of the educational model apply to all children—Head Start, Follow Through, or otherwise. Emphasis on compensatory measures, such as developing specific academic skills for disadvantaged children, is not advised. Gilkeson does say, however, that disadvantaged children first need a trusting and predictable school environment—one in which they can learn the effect of their own actions.

Essential to the Bank Street Approach are two ingredients: first the teacher, whose job is to create and maintain a healthy climate for learning and to respond positively to the children's needs; and second, a classroom arrangement to encourage children to choose appropriate activities within the context of a carefully planned environment stressing the social studies. There is no prescribed way of organizing the classroom and there are no typical lessons taught. Teachers use certain basic materials such as *Bank Street Readers*, special language stimulation materials, Cuisenaire rods, and the Nuffield Series for math, as well as numerous teacher-made materials and some commercially produced materials.

Although reading, writing, and arithmetic are an integral part of this model, its essence is in its process approach, which requires a flexible classroom arrangement, a large variety of materials for learning, and a rational system of controls built upon intrinsic motivation, mutual trust between teacher and child, and the careful interweaving of work and play.

Tucson Early Education Model

The Tucson Early Education Model (TEEM) was begun in 1965 as a cooperative venture between the University of Arizona and Tucson School District No. 1. The initial purpose of the project was to promote the intellectual development of young Mexican-American chil-

dren. Marie M. Hughes developed and directed the model through the Arizona Center for Early Childhood Education. In 1968 the Arizona Center became a Follow Through sponsor and the TEEM program is now being used in preschool through third grade with children of all ethnic backgrounds. There are 19 communities implementing TEEM, serving approximately 8,200 children.

In this model the central focus of attention is on the relationship between development of language and intellectual skills. Hughes developed the notion that the learning of words and their meanings is dependent upon the child's related experiences. The model emphasizes the language experience approach, with the classroom setting designed to support experience-based learning. Hughes and others believe that the lack of skills, particularly language skills, combined with low self-esteem, contributes to academic, social, and vocational failure among many disadvantaged children. Extra attention, beyond that normally provided in the usual preschool and primary grades, is given to the program's four goals: 1) development of a positive attitude toward learning, 2) development of a language base, 3) development of an intellectual base, and 4) development of societal arts (reading and arithmetic) and skills such as self-control.

The essential feature of the classroom process is free choice of activities. Committees of children (planned and organized either voluntarily by children or with teacher direction) work with or without an adult to accomplish tasks of their own choosing. Because lines between subject matter areas are abolished, the curriculum is organized around functional activities and experiences of the particular classroom of children. Thus, materials are open-ended, varied, and changing rather than oriented toward subject matter. In most cases, children must read and write instructions to complete an activity, thereby coming to know the functional value of reading and writing.

To be compatible with the curriculum organization, the classroom is composed of interest areas with basic functional equipment (measuring cups, typewriters, tape recorders, etc.) in each area. Commercially available curriculum materials recommended, but not required, are *Language Experience in Reading*, *Nuffield Mathematics*, *Freedom To Read*, and *Sounds of Language*. Many materials used are common

household items or raw materials such as scraps of cloth, beads, wood, or paints.

The principal ingredients then are free choice, flexible small groups, and frequent one-to-one teaching. The key word in the program is *orchestration*. The best example of this principle is a cooking experience that covers language use, nutritional information, substantive content, math concepts, and positive reinforcement in eating the product. The central teaching strategies revolve around individualization, imitation, modeling, and corrective feedback, and social reinforcements such as praise and attention.

Responsive Education Program

The Responsive Education Program originated at Greeley, Colorado, in 1964, as the New Nursery School. Developed by Glen Nimmicht, the program moved to the Far West Laboratory where it became a Head Start and Follow Through model in 1969. Approximately 6,300 children at 14 project sites are enrolled in Responsive Education Program classrooms.

The model is based on the idea that a school environment should be designed to respond to the learner. Activities within that environment should be self-rewarding and not depend upon rewards or punishments unrelated to the activity.

Three major goals provide direction for program operations. First is the development of a positive self-image. Second is the development of intellectual ability in these dimensions: 1) language, 2) sensory development, 3) concept formation, and 4) problem-solving skill. Third is cultural pluralism (ability to interact equitably and effectively in a pluralistic society).

The classroom learning environment is made up of a number of learning centers; each center focuses on different concepts or tasks. The choice of learning center is determined by the child's individual interest. Centers are structured such that the child makes the decisions, solves the problems, sets the goals, interacts with other children, and eventually becomes a self-directed learner.

Instructional units called "learning episodes" comprise the curriculum. Each episode is organized to achieve objectives in the areas of

sensory and perceptual development, language development, and concept formation. There are a number of learning episodes for each objective and all are arranged by degrees of difficulty or complexity. The program assumes different learning styles and sequences for individual children, so not all children must follow the above sequence or do all of the episodes.

The central educational objective is problem solving, and the developer has created a series of problem-solving materials such as *Phonogram, Matrix Games, Pattern Box, Discovery Cards,* and *Wooden Table Blocks.* Almost all materials used in the learning episodes are toys, games, records, etc., rather than printed materials like workbooks. The toys come in two different series of eight toys each and may be obtained from General Learning Corporation.

A unique feature of the Responsive Education Program classroom is the learning booth, which houses an electric typewriter and a magnetic chalk board. Here children are involved in activities progressing from free exploration of the typewriter, to matching the color-coded keys with the typewriter overlay on the chalk board, to typing their own words and stories.

The teacher's role is limited to that of planning episodes, arranging materials, and responding to children based upon the behavior they initiate. This teacher role, coupled with the rather extensive set of specifications about classroom organization and materials, relates directly to program assumptions about the nature of the learner and the degree of self-choice and flexibility required for an ideal learning situation, as well as to the program concept of management, which refers to the environment and not the child.

Open Education Program

The Open Education Program began as a Head Start and Follow Through program model in 1968 but evolved over a period of 25 years in the British infant school system. The program, developed by the Education Development Center (EDC), presently serves a combined classroom enrollment of approximately 3,600 children in 10 communities (five rural and five urban).

The Open Education Program might be more accurately described

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as an approach to education rather than a model program. Two key elements form the conceptual substance of this approach: an open classroom and an advisory system, or team of advisors, that sustains the open classroom by helping to implement classroom philosophy and develop practices consistent with it. The open classroom is defined in terms of openness in space, time, classroom organization, and very importantly, communication (dialogue). Goals for children in the open classroom include the development of 1) initiative and self-direction, 2) curiosity and commitment, 3) literacy, 4) openness to change, 5) imagination and a sense of humor, 6) self-respect, 7) respect for others, and 8) the ability to challenge ideas. These goals are not intended for any particular socioeconomic level, ability level, or age level; rather, the developers see them as guides for educating all children. Further, the teaching methodology and classroom conditions are primary concerns, whereas intellectual content is secondary.

While open classrooms vary greatly in their attempts to meet the needs, abilities, and interests of particular children and in the teaching styles used, there are some characteristic features. Children have free choice of activities throughout the day, moving in and out of flexible small groups of their own choosing. There is a rich variety of materials to stimulate exploration and discovery. Scheduling is flexible, the teacher's role is supportive, and interchange among pupils is constant.

The developers oppose a set curriculum or sequence of learning activities. The program staff provides suggestions for teachers in the form of one- to three-page statements about possible classroom activities. Sample topics include woodworking, exploring color, improvising with dance, and water play. The classroom materials are not prescribed, but a list of recommended materials ranging from "junk" to commercially available materials is provided. Emphasis is placed upon materials that stimulate intellectual activity, feelings, and imagination.

The Open Education Program is clearly an educative approach characteristic of the interactionist viewpoint. Teachers are constantly involved with children as they develop communication skills, motor skills, encoding and decoding skills, and problem-defining and problem-solving skills. Teachers keep continuous records of children's

growth in all areas, often on specifics such as new vocabulary. Although there is little emphasis on traditional subject matter per se, the children's work efforts typically encompass most subject matter areas in art, mathematics, language arts, and science activities.

Demonstration and Research Center for Early Education

The Demonstration and Research Center for Early Education (DARCEE) grew out of the Early Training Project, an intervention project initiated by Susan W. Gray and Rupert A. Klaus at George Peabody College for Teachers in 1961. The DARCEE model was established in 1966 and over the years has developed a preschool program for 3-, 4-, and 5-year-old children. Although designed for disadvantaged black children, the program has subsequently served white, Indian, and mixed groups as well. The program has been established in the three DARCEE centers in Nashville, centers in rural Tennessee, and in classrooms in urban and rural areas around the country. The DARCEE model has been applied to Head Start but not Follow Through and is included in this chapter because it is illustrative of a variation in the environmentalist approach to early childhood program development.

The goals of the DARCEE program involve fostering socialization for competence, developing cognitive skills for environmental mastery, and developing the sustained motivations necessary for continued growth. Skills and attitude development are given equal importance. Skill objectives focus on three areas: sensory skills (the processes by which environmental stimuli are received and decoded); abstracting and mediating skills (the skills concerned with organizing information); and response skills (the skills required to express the products of the decoding and organizing processes). Attitude objectives focus on positive self-identity, independence, persistence, ability to delay gratification, sportsmanship, and the like. By centering on these skills and attitudes, the DARCEE program prepares children for the elementary school curriculum they will soon be faced with.

The curriculum is organized around unit themes such as "Home and Family" or "Autumn." Units may last for as long as three weeks and are presented in order of increasing difficulty. Each unit activity is

broken down by skills and specific objectives and is designed to develop one or more aspects of the specific skills and attitudes.

The teacher rather than the student initiates the lessons. The developers feel that every teacher should know the program objectives and the abilities of each child in order to provide the proper match between program objectives and child abilities. The level of difficulty for any task should be "just manageable." The teacher and assistants make that decision based upon continuous evaluation and planning. DARCEE strongly emphasizes teacher-child interaction and the use of selective reinforcement. Initially children may be rewarded with candy for the accomplishment of difficult tasks; later the reward is changed to stars and checks; and finally only praise is used. As children learn to accomplish tasks, the ultimate objective is to have their own sense of self-satisfaction serve as their reward.

The program emphasizes extensive handling of manipulative materials by children. Although no materials are prescribed, a list of recommended materials is available. These are not unusual materials and would normally be found in any preschool. DARCEE also uses teacher-made materials such as flannel-board story sets.

The crucial part of the DARCEE program (as in Englemann-Becker and Behavior Analysis models) is evaluation. A child's success is defined as his ability to complete a task correctly. He must demonstrate competence at one skill level before proceeding to the next. Therefore, the teacher must constantly observe and record the child's progress.

Montessori Method

The Montessori Method is perhaps the first truly systematic effort to educate children under six years of age. It was widely acclaimed in Europe and America around the turn of the century, but the initial enthusiasm in America was short-lived. The onset of World War I and a cool reception by such distinguished educators as William H. Kilpatrick precluded widespread acceptance. Recently, however, there has been a rebirth of interest in the method parallel to the growing federal commitment to early childhood education. At present, it is estimated that there are nearly 1,000 schools that carry the Montessori name, al-

though none of these is associated with Head Start or Follow Through.

Maria Montessori, the first female physician in Italy, developed ways of working with children that differed markedly from previous practices. Her first work was with children who were considered mentally deficient, and she was phenomenally successful. Through her success, her materials and methods gained great visibility. Montessori began to question the effectiveness of public school practices for normal children, and in 1907 she accepted responsibility for the education of slum children in Rome. Through the now famous "casa dei bambini," or "houses of children," Montessori's success attracted worldwide attention.

Montessori's writings, although varied, are most closely associated with the interactionist view. A discussion of her method is presented because of its historical influence on conventional nursery and kindergarten practices and because a Montessori school is probably the most popular private preschool model implemented in America. As a contemporary of Dewey, Montessori left her mark on early childhood education. Her didactic teaching materials are used in some form or another in most early childhood programs in this country today. Further, she established the important historical link between early childhood education and special education. Teacher training centers maintained by the Association Montessori Internationale are located throughout the world. The American Montessori Society, which is not affiliated with the Association Montessori Internationale, operates programs in America.

The Montessori Method, more accurately called an approach, is based upon a view of the child's own natural developmental process. The child explores didactic materials that are sequenced according to his increasing natural capacities, interests, and competencies. Exploration and related activities take place in the "prepared environment," an organized and coordinated set of materials and equipment scaled physically and conceptually to accommodate the child's need to organize and attach meaning to his world.

The teaching-learning situation is highly individualized. Children are free to move about, select their own learning activities, and work at their own rates. The teacher, called a directress, carefully observes the

children, introduces them to the precise use of materials (a "fundamental lesson"), and assists them when truly necessary. The directress schedules few group activities, does not promote close relationships in which children will want to please adults (as in the Bank Street program), and uses no systematic reinforcement to speed up the learning process (as in the Englemann-Becker program). The primary goal for children is autonomous functioning and intrinsic satisfaction.

Best known by educators is the Montessori equipment. Through her carefully designed materials, children come to know the "how" as opposed to the "what" of learning. The materials are of four types: 1) those aimed at integrating motor activity (personal grooming, sweeping, cooking, and cleaning); 2) those designed to develop sensory discrimination skills (visual, tactile, auditory, and olfactory); 3) those involved in language training (naming, recognizing, and pronouncing); and 4) those of a cultural and artistic nature. Subsequent to the completion of activities using these materials, children (many by age 4) are introduced to academic learning activities pertinent to reading, writing, and arithmetic.

Cognitively Oriented Curriculum Method

The Cognitively Oriented Curriculum evolved from the Perry Preschool Project, which operated in Ypsilanti, Michigan, from 1961 to 1967. Beginning as a Head Start and Follow Through model in 1968, the program was administered by Eastern Michigan University. In the fall of 1970, sponsorship was changed to the nonprofit High/Scope Educational Research Foundation under the direction of David Weikart, one of the original developers of the model. At present, the program serves over 3,000 children at seven sites representing all areas of the country. Three of the sites are in major urban areas.

The Cognitively Oriented Curriculum is an attempt to translate Piaget's theory of development into an educational program for preschool through third grade. The program goals stress helping children develop thinking skills, concepts, processes, and attitudes that will enable them to assimilate new knowledge and apply it to their expanding personal environment. The curriculum is divided into four major cognitive-relationship core areas.

1. Classification: children make relational or functional discriminations by grouping items on the basis of one or more common characteristics.
2. Seriation: children deal with objects in terms of their relationships in size, quality, or quantity.
3. Spatial relations: relations among objects and persons are approached through the orientation of the child's body with other objects in space.
4. Temporal relations: children start to deal with time in terms of periods having a beginning and an end.

For each of these areas there are numerous activities designed to achieve the desired objectives. Children are actively involved in these activities, learning through manipulating concrete materials. The introduction of abstractions or symbols comes later. After acting on their environment, children are asked to represent it. All activities are broken down by levels of representation, i.e., index, symbol, and sign—since it is assumed that these levels describe the stages children go through as they develop logical ways of viewing their environment. At the index level, children learn what they see and also learn to recognize objects from minimal cues (a part of something missing). At the symbol level, children, having a clearer mental image of objects, represent them through make-believe, drawing, or clay modeling. At the sign level, children learn to represent objects and events abstractly through the use of written words and numbers.

Another aspect of the curriculum structure is the levels of operation. At the motor and verbal levels children physically experience a variety of equipment and materials while becoming increasingly more capable of using language as a tool for communication.

The cognitively oriented teacher determines specific daily goals and selects the methods most suitable for achieving those goals. All activities are sequenced to correspond with the children's representational abilities. The classroom setting is also characterized by a sequence of activity periods, beginning with a joint teacher-pupil planning time of approximately 20 minutes. The child thinks ahead to what activities will come first, next, last, and so on. Older children write down their plans. The work chosen during planning time is car-

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ried out over a 40-minute work time. Both individual and small group activities take place in the art, block, doll, and quiet corners. When the work time period is over, children gather together to evaluate their own work. The purpose of this activity is growth in the child's ability to be objective about his own work.

The role of the teacher in this program is essentially that of a facilitator and catalyst for the child's learning. The teacher establishes an environment supportive of children's active experiences with a variety of objects, people, and materials. She helps the children plan, carry out, and evaluate their work. Strategies include verbal stimulation, sequencing of learning activities, questioning, field trips, sociodramatic play, and frequent use of small group discussions.

It is not necessary to purchase special materials to implement the Cognitively Oriented Curriculum, as materials found in most preschool and primary grade classrooms can be used to achieve the objectives.

The Learning To Learn Program

The Learning To Learn Program (LTL) was originated in 1964 by Herbert and Joan Sprigle as a private research and development effort to identify, design, and implement the kinds of experiences that foster early personal, social, intellectual, and motivational development for children age 3 to 6. The LTL Program, unlike most others mentioned here, was not associated with Head Start or Follow Through. Funds for program development were provided from numerous sources, including the Office of Child Development and the Carnegie Corporation of New York. The LTL children's program was terminated in 1973 as Sprigle and his staff began the next phase of their research and development effort, the extension of the Learning To Learn children's program model into an early childhood teacher education model. (Current work on that model is underway at the University of Georgia and the University of Toledo under the direction of John R. Cryan.) The LTL Program is presented because of its significant research findings relative to educationally high-risk children.

Sprigle proposes that most traditional preschool programs are neither relevant nor appropriate to what children, especially poverty

children, will later encounter. The basic premises of the program are as follows.

1. Every child has an inner drive toward maturity, increased competence, and mastery over his environment; he looks to adults for behavior and attitudes that are appropriate to this growth.
2. The first few years of school should provide the child with opportunities to learn how to learn through school experiences of an emotional-social-cognitive nature.
3. The formal educational process begins optimally in early childhood, with an organized, systematic, sequential curriculum.

Key features of the I.T.I. Program are its three-year developmental curriculum, its physical/spatial arrangement, and the role of the teacher. The first feature of the program, a three-year developmental curriculum, involves concrete, manipulative objects and materials that insure understanding through firsthand, practical experiences that the child has already had at home. Small steps in the process accommodate a wide range of individual differences through games and game-like activities. The children use all their senses to strengthen learning. Flexible use of the curricular materials provides an opportunity for teacher and child input and discourages rigid instruction.

The second feature of the program, its physical/spatial arrangement, necessitates the use of two classrooms. One is a regular, large classroom equipped with a variety of materials selected for their contribution to the child's development. These materials are unstructured or semistructured but require the child to structure, manipulate, and explore them. Children have freedom of choice and movement during the period in the large classroom.

The other classroom is a hallway, a closet, a supply room, or any other place free from visual and auditory distractions and protected from intrusions by classmates. In this setting, the developmental curricular materials are used by the teacher with two, three, or four children. Children are grouped according to homogeneity of affective, social, and cognitive development. The activity in this classroom occurs with one group at a time for 10 to 30 minutes while the other children remain in the large classroom. The environment of this small group session maximizes the effectiveness of the teacher, enabling her

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to emphasize attitudinal goals such as respect for others and the "I'm somebody" feeling, while implementing the I.T.I. curriculum.

The third, and most important, feature of the program is the role of the teacher. The I.T.I. teacher is responsible for sequencing, timing, and pacing. She is guided by the child's current behavior through continuous observation of groups and individuals. Her characteristic role is that of a facilitator who arouses the child's curiosity, challenges his level of ability, and invites his active participation through two-way communication between child and child or between child and teacher. Children talk more than the teacher, whether in the large or small classroom setting.

The I.T.I. Program is as much a process model as anything else. The establishment of two separate learning environments operating simultaneously is the foundation of the process. The implementation of a sequenced developmental curriculum by a trained teacher provides the direction for that process. The curricular materials are published by Science Research Associates as *The Inquisitive Games*. However, a list of recommended materials and games locally obtainable or suitable for teacher construction is available. This model is appropriate, with simple adaptation, for any early childhood education setting, whether it be a private nursery school or public primary school.

Summary

This chapter has provided a survey of early childhood model programs and approaches. These programs represent points on a continuum, ranging from the highly structured environmentalist approaches to the less structured developmental, interactionist approaches. All have a long history of research and development, with the Montessori Method dating back to the turn of the century. The questions are: Where does all this leave the educator and layperson seeking to start a new program? What program is best? For whom?

The answers to these questions are complex and, as yet, not completely known. We do know some things, however. First, we are certain of the value of parent involvement in early childhood program development. Although only briefly mentioned in this chapter and the one to follow, parent involvement is a key ingredient. Each of the pro-

grams described cites the importance of parent participation, input, and shared decision making as integral to the success of children in school.

Second, we know that two different facets of the learning environment contribute to children's success. One facet, referred to as "developmental," bases children's learning upon their own selection and direction of experiences and activities. Learning is random for the most part, as each child seeks out knowledge of people, things, and relations; the child's stage of development predisposes him to follow an uncharted path. In contrast, the other facet, referred to as "educative," depends for its structure and process upon the professional teacher. The key to learning in this environment is a structured selection of goal-related activities chosen for a particular child or group of children. The learning process is teacher-directed and characterized by short-term, highly motivating activities.

Third, we are fairly well convinced that no particular model or curriculum is appropriate for all children. Selection of a program model requires extensive needs assessment. Careful consideration of local school objectives, program goals, and school-community population should be a priority activity.

Fourth, but certainly not last, we are certain of the importance of the professional teacher. While developers, researchers, and theoreticians differ in their definition of the teacher's role, none would deny that defining that role is crucial to the success of any program. Teachers must be given purpose and direction through effective leadership and recurring inservice training or staff development activities.

Twenty years of program development and research have provided few solid conclusions about a total program for children age 3 to 6. Evaluation studies of Head Start and Follow Through have provided a "mixed bag" of results. There seem to be few certainties in education research. The foregoing discussion has presented the best of what we now know.

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Programs for Infants and Toddlers

To a majority of the general public, the term "infant education" brings to mind visions of tiny babies in a sterile environment engaged in rather structured activities, usually in a group setting. In reality, infant education, as it is defined here, includes not only a child, but also the child's mother and/or father and, at planned intervals, another adult. (Additional infants and adults may be involved if the program has a "center" component.) Generally, infant education focuses on the mother-child relationship with the mother serving as her child's "teacher." She is assisted by a professional or paraprofessional, who provides ideas, activities, and materials that are developmentally appropriate for the individual child. The location and structure of infant education programs vary in that such programs may be home-based, center-based, or a combination of home- and center-based. Centers also vary in type, in that they may be separate facilities designed specifically for infants and parents or they may be located in public elementary or secondary schools, colleges or universities, hospitals, nursery schools, community centers, or private homes.

Infant education is a recent development in the U.S. According to a 1970 survey conducted by the Cyesis Programs Consortium of Washington, D.C., only one infant program existed before 1960. As stated earlier, recognition of the importance of a child's earliest years helped to produce the infant intervention programs in the mid-1960s. Program development for infants, toddlers, and parents has occurred pri-

marily since 1967. In 1967 the following types and numbers of infant programs existed in the U.S.:

Programs for the care of infants of school-aged girls; 23
Research-oriented infant education projects; 12
Parent-child centers, sponsored by the Office of Child Development/Department of Health, Education, and Welfare; 33

The focus of this chapter is on infant education research programs and on descriptions of those programs that have evolved from the early model programs, rather than on group day care of infants. This is in no way intended to denigrate the infant education that occurs in high quality day care. Rather, since day-care programs tend to follow (and modify) the strategies developed in early model programs in the educating of infants, the focus is directed to research-based projects. Infant day care and infant education are not necessarily synonymous.

The early infant education programs have generally revolved around intervention strategies aimed at particular populations, e.g., low-income families and/or teenage parents. More recently, middle-income families have requested similar programs in which they, the parents, can be actively involved. However, regardless of target population, the intent of all infant education is to assist parents in developing alternative and new strategies in child-rearing skills, to provide basic and individualized child development information, to emphasize the importance of the child's health and nutrition, and to facilitate the teaching of specific activities to infants. Local infant education programs that typically are based on the early model programs may be offered by the following individuals or institutions:

1. Home economics departments in community colleges, state colleges, and universities
2. Adult education departments in public school systems
3. Pediatricians or nurses in local hospitals and clinics
4. Prepared-childbirth instructors who offer a child-rearing course as a follow-up to courses on child bearing
5. Independent educators who operate programs for parents and children under the age of 3

In the pages that follow, examples of parent-infant and parent-toddler programs will be described to familiarize the reader with a

range of research-based programs in operation. All these early infant programs were intervention projects involving three approaches: 1) the home visitor approach, 2) the center-based program, and 3) the center and home visitor combination.

Home Visitor Approach

Several differences exist among home visitor programs. Generally, however, a home visitor makes regularly scheduled visits to the home to work with the child, the mother, or the child and mother together. Recent research on home visitor effectiveness (Lambie, Bond, and Weikart, 1974) has indicated that it is vital for the home visitor to focus on the mother as the child's teacher. If the mother perceives herself as the one who is responsible for the child's success and progress, then the gains will be retained. In those programs where parents have no responsibility, the reverse is true. Thus, the home visitor's goal is to bring about enduring changes in interaction in the home—changes which, hopefully, will generalize to subsequent children in the family.

The focus is on the one-to-one relationship between mother and child. The visitor may model behaviors for the mother to imitate or she may more directly "teach" or coach the mother as she interacts with her child. There is usually some sort of preplanned activity; materials or toys may also be made or provided. While a home visitor's primary responsibility is to attend to the mother-child interaction and to provide stimulation, she may also serve as consultant for a variety of problems, giving alternatives for reaching solutions and for locating and utilizing pertinent community resources. Home visitors may vary considerably in their training, from professional, to student, to trained paraprofessional. Positive results have been achieved by home visitors with all levels of training.

With this general information as background, specific program highlights will be reviewed for two notable home visitor programs, the Early Childhood Stimulation Through Parent Education Project, developed by Ira Gordon in Florida, and the Mother-Child Home Program, directed by Phyllis Levenstein in Freeport, New York.

Florida Parent Education Programs. The goals of the Florida program include enhancing the young child's potential for school success

through early stimulation and helping low-income mothers to develop a positive self-concept and to improve their sense of control over their immediate environment. The program was implemented in the following manner: Once a week, the home was visited by a "parent educator" who demonstrated an activity from a sequenced infant curriculum based upon Piagetian sensory-motor tasks for children between the ages of 2 and 3. The parent educator was a woman from the same background and socioeconomic status as the mothers in the program. She was trained at the University of Florida. The parent educator would typically role play or model techniques in order to help the mother understand the activity and her child's growing capability. Mothers were encouraged to utilize the exercise or task during the week after the parent educator's visit and to report on their child's responses at the next visitation. Attention was also given to exposing the infants to language, and mothers were encouraged to talk to and play with their children.

Evaluations have indicated that children involved in this program scored higher on standardized tests and retained their gains up to three years subsequent to leaving the program. Key elements in the success of the program were found to be: 1) emphasis on the mother-child interaction, 2) provision of specific activities that were developmentally appropriate for individual infants, and 3) supportive but structured guidance requiring active parent participation with the child.

Although originally a research-based program, the methodology and materials (*Baby Learning Through Baby Play*) have been utilized by other programs in the U.S. The Florida program is now one of a number of program models federally funded as a Home Start model.

Mother-Child Home Program. Verbal interaction between mother and child is the central focus of this program. Specifically, goals include the development of the child's symbolic use of language and the training of the mother to initiate and carry out verbal interaction that promotes the child's language development. The program's goals are affective as well as cognitive; the mother is given support in fostering the child's social and emotional development, since cognitive growth progresses more smoothly when there is mutual regard and affection between mother and child.

This program begins when the child is 2 years old, and continues for two years. During that time, the home is visited twice every week between the months of October and May. As in the Florida project, the mother is viewed as the child's primary teacher. The home visitor, called a "toy demonstrator," employs toys and books (that are given to participating families) to demonstrate to the mother a simple, structured, yet flexible, curriculum of verbal interaction techniques. In contrast to parent educators in the Florida project, toy demonstrators are of two types: some are paid former mother-participants and others are unpaid college-educated female volunteers. All home visitors are trained together in an ongoing training program.

Evaluation of the effects of this program has been positive, with children retaining their general and verbal intelligence gains into first grade. By 1975, 30 organizations were successfully operating the Mother-Child Home Program model in other locations. As with the Florida project, success is primarily attributed to concentration on and support of the maternal teaching responsibility.

Home visitor programs, like the two models reviewed here, were successfully initiated in the late 1960s and early 1970s; their success has encouraged the implementation of new home visitor programs. For example, the exemplary Ypsilanti-Carnegie Infant Education Project evolved as a result of the Perry Preschool Project under the direction of David Weikart and Dolores Lambie. The home-based approach has been found to be a desirable educational alternative to use with preschool-aged children; e.g., in 1972 Head Start initiated "Home Start," a home visitor program for low-income preschoolers and their families. Further, the home visitor alternative is utilized with special populations such as families who live in isolated areas or who have handicapped or retarded children. (Sources of information on specific infant programs and addresses for ordering materials can be found on page 57.)

Center-Based Infant and Toddler Programs

Center-based programs that serve infants or toddlers and their parents, although relatively rare, are currently increasing in number. The parent cooperative nursery school, where mothers and fathers

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share the teaching responsibility, has been in operation for some years. Now programs that utilize a similar approach with parents and their infants or toddlers are being tried in several locations.

Center-based infant/toddler and parent programs, like the home visitor model, focus on the parent as educator of the child. Such programs may vary in duration from three months to two years. Typically, a small number of parents (10 to 15) bring their children to the center once or twice a week for a period ranging from one to two hours. Time at the center, necessarily flexible, is divided into activities with babies, opportunities for group interaction, and presentations by staff members. Goals of center-based infant/toddler and parent education classes are to:

1. Promote opportunities for parents to share information with other parents of children of similar ages
2. Meet with and utilize resource people, such as pediatricians, pediatric nurses, and nutritionists
3. Teach the basics of normal child growth, development, and behavior
4. Supply developmentally appropriate exercises and activities for mothers to "teach" their children
5. Provide a protected social environment in which infants and toddlers may encounter one another
6. Enable parents jointly to investigate topics of common interest.

Center-based parent-infant programs frequently lend toys and have resource centers with materials on parenting, such as magazine articles, books, films, and videotapes. The instructor in such a program assumes the dual role of leader and facilitator and often has students from college or university classes to assist her. Families may or may not be charged a fee for attending. Typically, parents enroll with their first child. The highlights of two programs, the parent-infant program at the Seattle Community College and the parent-infant development program of Montgomery County, Maryland, Department of Adult Education, follow.

Seattle Community College Parent-Infant Program. In 1971, a pilot program, "Living and Learning with Baby," was begun at Seattle Community College (SCC) for parents and their infants. Partic-

ipants were primarily low-income, high-risk families. Specific goals were: 1) to help parents focus on their infants' language and cognitive development, 2) to encourage confidence in parenting roles, and 3) to manage family resources more effectively. Since that time, the program has expanded so that approximately 100 families enroll during any 11-week college quarter; parents are encouraged to keep enrolling for three consecutive quarters. The age of the children determines grouping in classes; parents have the option of continuing their involvement during the second year by enrolling in classes at the parent-child center.

Ten to 15 parent-child pairs constitute a class, which continues despite the needs of the infants for diapering, feeding, and even napping. Parents have sharing times, make guided observations of their child's behavior or developmental change, and participate in activity time at each meeting. The shared activities take into account multiethnic and social class background factors. Instructors in the SCC program have varied professional training, holding degrees in such areas as social work, nursing, early childhood education, educational psychology, and nutrition. Each instructor also has an assistant, typically a person with a two-year degree in early childhood or parent education.

In addition to the many sections of this type of class, SCC also offers two related courses: a Saturday morning class for fathers and infants taught by a male instructor and a class for infants and mothers that meets in a large retirement home.

Evaluation of this program is not yet available; however, it would appear that, based upon program participation and growth, it is at least successful in meeting parental needs.

Montgomery County Parent-Infant Developmental Program. The Parent-Infant Development Program in Montgomery County, Maryland, is part of a comprehensive parent education program termed the "Life Cycle Approach to Education." This comprehensive program covers topics spanning the entire life cycle, offering such classes as "Separation and Divorce," "Parents of Adopted Children," and "The Single Parent."

The Montgomery County program is similar in format to the SCC

program except that the parent-infant class is offered in the public schools rather than in a college setting. During the first hour of the two-hour session, parents, teachers, and children interact in activities devoted to the infants' motor and cognitive development. During the second hour, children are left in a large room, well supervised by a teacher and two mothers, while the other teacher and mothers meet in an adjoining room for group discussion of observations and relevant topics. Out of this program has come a book that includes infant stimulation activities and an observation guide for use by parents.

Classroom instructors in the program have college training in early childhood or parent education as well as a year's training as assistants in the various sections of the parent-infant class. In addition to the class, this program provides a parent education resource center and sponsors a parent education conference every summer.

Center-based programs have enjoyed a fair amount of success, as have home visitor programs. Center-based programs differ in that they place greater importance on parents as a source of support for other similar parents. Thus, while home visitor programs may offer more direct instructor-to-parent support, parents themselves tend to perform that function within center-based program groups. Both approaches have their rationales for the manner in which they operate, and each should be recognized as a viable approach to providing infant education.

Where individuals are motivated and mobile, center-based programs are appropriate. With less mobile and perhaps less motivated families, home visitor programs are an especially helpful means of disseminating information and providing support. While center-based programs typically are utilized by educators, the center-based concept has also been used with success by pediatricians to disseminate well-baby information. In addition, like home visitor programs, center-based programs have been used to work with parents of children who are handicapped or retarded.

Center and Home Visitor Combination

Programs that combine home visitations and a center-based component tend to be more comprehensive than either type discussed pre-

viously. Often, combination programs offer high quality day-care services for the families involved, as well as health services, individual or family counseling, and nutritional information. Such programs are located either in public schools, universities, or in federally/locally funded projects that utilize parent-child centers or Head Start facilities. Staffing tends to be multidisciplinary, including educators, social workers, nurses, and even doctors. Goals of combination programs may include the following:

1. Provision of comprehensive prenatal and nutritional guidance for expectant mothers
2. Provision of emotional support and help for families with problems, through the utilization of social agencies
3. Provision of stimulation techniques for mothers to use with newborn infants
4. Enrollment of the infant and parent in a program—sometimes day care and sometimes center-based
5. Encouragement of the language, motor, and cognitive development of the child
6. Provision of medical, dental, visual, and auditory testing of infants
7. Opportunities for parents to meet with other parents for the purpose of improving parenting skills and self-concepts
8. Provision of both human and material resources related to parenting

Combination programs are longitudinal and represent a rather intense concentration on improvement of parent and infant education. It remains to be seen if such an extended program—prenatal through school age—is necessary and feasible or if less intensive early education efforts can achieve comparable results. The two programs described below are examples of "combination" programs: the Syracuse Family Development Research Program and the Brookline Early Education Project (BEEP).

Syracuse Family Development Research Program. The Syracuse program, originated by Bettye Caldwell (who now directs the similar Kramer Project in Arkansas), has been extended under the direction of Ronald Lally. The Syracuse program is a longitudinal study of the

impact of comprehensive family services on low-income families. This program is characterized as follows:

1. Paraprofessionals visit the home and give pregnant mothers prenatal, nutritional, and developmental information
2. Home visitations continue until the children are of school age and include the provision of sensory-motor and cognitive activities for mothers to teach their infants
3. Home visitors lend books and toys, act as a resource for solving problems, and serve as a liaison between the parents and the center
4. Infants between six and 15 months of age attend a half-day developmental day-care program emphasizing activities that are primarily sensory-motor and developmentally "on target" for specific children (a low adult-child ratio of one to four is maintained)
5. Children between 15 months and four years of age attend an all-day, family-style day-care program that has children of varied ages in every group; care-givers are both male and female, and the program curriculum is patterned after the British infant school
6. A series of workshops is available for parents

The Syracuse program places considerable emphasis on the training of home visitors. Paraprofessionals, primarily women who live in the same neighborhood, undergo a variety of training techniques in an ongoing training program. From this focus on pre- and inservice training, an excellent handbook, designed to teach care-givers strategies for facilitating the development and education of very young children, has been produced.

Evaluation, since it is longitudinal, is still being conducted. Evidence of impact is that nutrition of involved families is superior to that of control families and that children enrolled in preschool programs after participating in the Syracuse program are well adjusted, competent children. Data on the Syracuse program, along with findings from other day-care programs (Keister, 1970; Schaefer, 1972; Fowler, 1972), seem to indicate that the *quality* of an infant's day-care experience is likely more important than the setting, whether home or

institution. Further, results indicate that programs that intervene early and continue for more than eight months tend to produce more positive, sustained results in children and families. Incoming results from the Brookline Project, discussed below, appear to reinforce these findings.

Brookline Early Education Project. The Brookline Early Education Project (BEEP) provides comprehensive diagnostic and educational services to enrolled families. The aims of BEEP are twofold: to insure that children do not possess an undetected educational or physical handicap and to assist parents in providing the best possible beginning in life for their children. Like the Syracuse program, BEEP begins working with pregnant women and continues until their children reach school age. Unlike the Syracuse program, BEEP operates as part of the Brookline public school system. A unique feature is that the school system has developed a working relationship with pediatricians of the Community Child Health Division of Children's Hospital Medical Center, who conduct a sequence of diagnostic tests. Following are some features of the project.

1. Free health and developmental examinations begin two weeks after a child's birth and continue for two-and-a-half years at scheduled intervals.
2. Examinations include a neurological evaluation and auditory screening, plus evaluations of visual-perceptual development, cognition, and social-behavioral development.
3. Emphasis is placed on parental awareness of the nature of developmental change, as well as on their awareness of their child's specific development.
4. Families are randomly assigned to one of three levels of program involvement; the levels differ in amount of scheduled contact between parents and educational staff, primarily in terms of the number of home visits received (none, some, or many).
5. All parents are free to utilize BEEP resources, which include a book and toy library, drop-in day-care programs for children, free transportation to the medical center, workshops, seminars, and discussions on parenting topics, films, videotapes, and speakers.

Program evaluation, as yet incomplete, appears promising. The evaluation of program levels and their results on a variety of factors should prove very interesting to educational administrators who want high-level results for the least possible cost. The project was begun in 1973; thus, publication of the five-year results are now available. As with the other projects, an array of reports and curricula are available by writing to BEEP.

Programs that combine home visits and center-based programs appear to be successful. They are also costly; and, while cost is a significant factor in decisions regarding educational practices, it must be viewed relative to the larger cost of remediation should American children experience a poor start in life and school. Perhaps such a comprehensive approach to early education is necessary to insure sound parenting practices; well-functioning, happy children; and utilization of existing social agencies.

In summary, the last 12 years have witnessed the emergence of systematic attempts to influence positively child development and behavior through parent involvement and intervention strategies. Although infant/toddler-parent programs are themselves in a beginning stage, preliminary data from both longitudinal and shorter term projects appear promising. A variety of approaches seems appropriate in such a situation, as does a cautious optimism about the potential impact of infant education.

Conclusion

The past century has been characterized by a scientific and technological explosion. The effects of this explosion have made us all aware that learning is a continuous, lifelong process that begins with birth (or before), ends with death, and is carried on afterward by others. It is our position that the quality of a child's early years is directly related to later success in life and that early childhood education is *the* foundation for lifelong learning. We must point out that education and learning are not synonymous with schools and schooling. Certainly, schools are a vital part of the educative process, but we must remember that parents, peers, and community institutions also play an important role.

What do we know about early childhood education at this point? What does all the recent research and expenditure of billions of dollars tell us?

First, the development of a child involves a very complex configuration of forces in which dimensions of time, space, social institution characteristics, and education system characteristics interact continuously. Explaining lifelong learning with reference to just one of these forces is incomplete. Further, simply attempting to manipulate one of these forces has almost no chance of affecting significant long-term change.

Second, schools just cannot go it alone. How can schools, as they are presently conceived, make much of a difference when the time children spend in them accounts for only 7% of all living hours prior to age 13 and 8% of all living hours by age 17? (In contrast, television viewing accounts for 9% of all living hours by age 17.)

Consider also the possible effect of even the best school when 1) the likelihood that the child's mother will be employed outside the home is 30% from birth to age 3, 50% from ages 3 to 5, and greater than 50% during school age; 2) the chance that the child will be born in poverty is 17%; 3) the chance that the child will experience a one-parent family is 40%; 4) the chance that the mother will be an adolescent is 20%; 5) the chance that the child will not be immunized is 40%; and 6) the chance that the child will be handicapped is 13%, with a low probability that the handicap will be identified before the child enters school.

These statistics are staggering and point to the critical need for helping parents achieve success and finding the appropriate experiences for their children. The importance of the family in the child's education must be kept in mind. Numerous studies provide data that show differences in school performance favoring children who have had effective home teaching. Further, school program effectiveness is directly related to both the extent of involvement of parents and the frequency of visits to the child's home by school professionals.

Third, it may well be that preschool programs are saving the taxpayer money in the long run. In a Florida city, for example, 1% of the children whose parents participated in a home-based education program needed special education placements in school by fifth grade, whereas 30% of the matched control group—that is, children whose parents did not participate—required special education placements by fifth grade. At the time this research was conducted, a special education placement cost nearly two-and-a-half times that of a normal placement.

Fourth, no single program model is best for all children, due to the differing needs of children, the influence of different program goals, and the social context of instruction. Simply stated, different things work best for different children. At a recent meeting of the American Association for the Advancement of Science, Bernard Brown of the U.S. Office of Child Development declared that, except for a few short-term local studies, the accumulated research on early childhood education programs favors those programs 96 to 0. Well-delivered curricula do lead to improved performance in school; however, not all curricula lead to the same ends. Different programs can result in maintaining

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improved IQ scores during progress through school. Essentially, the abstractions referred to as education programs or models are not intrinsically effective. Rather, they become effective through the human effort expended in making them real.

Fifth, there is evidence that the duration of the curricula is related to program effectiveness. For example, high-risk children attending preschool programs such as Sprigle's, Weikart's, and Englemann and Becker's two-and-a-half hours a day for two years made gains that endured through at least fourth grade.

Sixth, a very recent study has demonstrated that exceptionally good day care is not harmful to infants. Further, it has been shown that typical—not ideal—day care seems to have no ill effects on low-income children and may in fact help them develop better than their counterparts at home.

Last, early childhood education is everywhere in America. In the U.S. there are over 4.8 million 3- and 4-year-old children enrolled in preschool program of one type or another. Additionally, over three million children are in kindergarten. The number of public school kindergartens is increasing, as are public programs for 4-year-olds. Private nurseries are mushrooming as tax support and credits for child care increase. There is growing interest in the expansion of early childhood programs downward to include toddlers and infants and upward to link the "under-6s" with the "over-6s." Numerous efforts are underway to end the separation of home and school.

Early childhood education has its problems: not enough quality programs exist; most classes are overly large; too many educators are attempting to push the primary-grades curriculum into kindergarten; evaluation studies of programs and services frequently lack definition, direction, and precision. As John Goodlad has said, we suffer from "CMD" (chronic measurement disease); we are preoccupied with pulling up plants to look at them before the roots take hold.

Lifelong learning will develop its roots if the conditions provided for learning and the kinds of learning supported are as important as what is being taught. Both of these factors require time. The right time is early childhood, and the time for early childhood education is now.

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The Interdependent Learning Model
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Home-School Partnership Model—A Motivational Approach
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